



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,131	06/22/2001	David W. Daniel	01-107	7730

7590 05/23/2003

LSI LOGIC CORPORATION  
1551 MCCARTHY BLVD, MS: D-106  
PATENT LAW DEPARTMENT  
MILPITAS, CA 95035

EXAMINER

CHU, CHRIS C

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/887,131	DANIEL ET AL.
	Examiner Chris C. Chu	Art Unit 2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 March 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1 - 6 and 8 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 - 6 and 8 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)                    4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5) Notice of Informal Patent Application (PTO-152)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                    6) Other:

## **DETAILED ACTION**

### ***Request for Continued Examination***

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 6, 2003 has been entered. An action on the RCE follows.
  
2. Applicant's amendment filed on March 13, 2003 has been received and entered in the case.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 ~ 3, 5, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumi.

Regarding claim 1, Matsumi discloses in Fig. 1 an integrated circuit substrate comprising:

- a first surface for receiving a series of aligned layers (resist pattern, 205, 206, etc.) during the creation of the integrated circuit (201), and
- a second surface disposed substantially opposite the first surface, the second surface having at least one alignment mark (204).

Further, the limitation “formed thereon prior to the first surface receiving any of the series of aligned layers during the creation of the integrated circuit” is product-by-process claim. Even though product-by-process claim is limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). A “product by process” claim is directed to the product *per se*, no matter how actually made, *In re Hirao*, **190 USPQ 15 at 17** (footnote 3). See also *In re Brown*, **173 USPQ 685**; *In re Luck*, **177 USPQ 523**; *In re Fessmann*, **180 USPQ 324**; *In re Avery*, **186 USPQ 116**; *In re Wertheim*, **191 USPQ 90** (**209 USPQ 254** does not deal with this issue); and *In re Marosi et al.*, **218 USPQ 289** final product *per se* which must be determined in a “product by, all of” claim, and not the patentability of the process, and that an old or obvious product, whether claimed in “product by process” claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear. Furthermore, the limitation “the at least one alignment mark adapted for

aligning the series of aligned layers one to another during the creation of the integrated circuit” has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Regarding claim 2, Matsumi discloses in Fig. 1 the second surface being divided into a first half and a second half, with one alignment mark in each of the first half and the second half.

Regarding claim 5, Matsumi discloses in Fig. 1 the at least one alignment mark being recessed into the second surface.

Regarding claim 6, Matsumi discloses in Fig. 1 the at least one alignment mark comprising geometric shapes in a pattern.

Regarding claim 8, Matsumi discloses in Fig. 1 an integrated circuit, the improvement comprising a series of aligned layers aligned upon at least a portion of the substrate (201) of claim 1 (see claim 1 rejection).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumi in view of Glenn et al.

Regarding claim 3, Matsumi discloses the claimed invention except for the second surface being divided into quadrants, with one alignment mark in each of the quadrants. However, Glenn et al. discloses in Figs. 5A the second surface (310B) being divided into quadrants, with one alignment mark (462A ~ 462D) in each of the quadrants. Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to modify Matsumi by using the second surface being divided into quadrants, with one alignment mark in each of the quadrants as taught by Glenn et al. The ordinary artisan would have been motivated to modify Matsumi in the manner described above for at least the purpose of using alignment mark as a reference (column 8, lines 43).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumi in view of Fujimura.

Regarding claim 4, Matsumi discloses the claimed invention except the at least one alignment mark being printed on the second surface. However, Fujimura discloses in column 2, lines 6 ~ 9 at least one alignment mark being printed on a second surface. Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to modify Matsumi by using the at least one alignment mark to be printed on the second surface as taught by Fujimura. The ordinary artisan would have been motivated to modify Matsumi in the manner described above for at least the purpose of providing a coplanar surface on the substrate.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1 ~ 6 and 8 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (10:30 - 7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chris C. Chu  
Examiner  
Art Unit 2815

c.c.  
May 16, 2003



ALLAN R. WILSON  
PRIMARY EXAMINER